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# Exact Methods for Multi-objective Combinatorial Optimisation

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Place:   Otto-Hahn-Straße 14,

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**Abstract:**

In this talk we consider multi-objective optimisation problems with a combinatorial structure. Such problems have a discrete feasible set and can be formulated as integer (usually binary) optimisation problems with multiple (integer valued) objectives. We focus on a review of exact methods to solve such problems. First, we provide definitions of the most important classes of solutions and explore properties of such problems and their solution sets. Then we discuss the most common approaches to solve multi-objective combinatorial optimisation problems. These approaches include extensions of single objective algorithms, scalarisation methods, the two-phase method and multi-objective branch and bound.